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Electronic phase separation in TmBa2Cu4O8

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Abstract

The NQR spectra of Cu(2) in the superconductor TmBa2Cu4O8 are studied at temperatures from 300 to 4.2 K. In analyzing the spectra it is assumed that the NQR line of each isotope contains two Gaussian components - narrow (n) and broad (b). It is discovered that the NQR frequencies have a minimum at the temperature T* = 150 K. The frequencies of the components of the spectrum are close at temperatures from T* to 4.2 K and differ substantially at temperatures T>T*. Both components are broadened as the temperature decreases, but this broadening occurs especially rapidly at temperatures T